

Claims

1. A method for providing antimicrobial properties to a composite item, comprising:
immersing a composite item in an aqueous bath comprising an organic antimicrobial
agent;

5 separating the immersed composite item from the bath; and
drying the separated composite item,
wherein the composite item is a member selected from the group consisting of composite
yarns, composite fabrics and composite articles.

10 2. The method of claim 1, further comprising the step of reusing the bath in a further
immersing step on a different composite item.

3. The method of claim 1, wherein said composite item is a composite yarn.

15 4. The method of claim 1, wherein said composite item is a composite fabric.

5. The method of claim 1, wherein said composite item is a composite article.

20 6. The method of claim 5, wherein said composite article is a member selected from
the group consisting of gloves, aprons, socks, filters, shirts, pants, undergarments, and one-
piece jumpsuits.

7. The method of claim 3, wherein said process is a continuous process.

25 8. The method of claim 3, wherein said process is a batch process and said composite
yarn is in a form of composite yarn wound on a bobbin.

9. The method of claim 4, wherein said process is a continuous process.

30 10. The method of claim 4, wherein said process is a batch process and said
composite fabric is in a form of composite fabric wound on a roll.

11. The method of claim 1, wherein said organic antimicrobial agent is present in said bath in an amount of from 0.1-2 % by weight of the total bath.

12. The method of claim 1, wherein said organic antimicrobial agent is a silicone
5 based quaternary ammonium salt.

13. The method of claim 12, wherein said silicone based quaternary ammonium salt is a copolymer of a long chain (C₁₂-C₂₀) alkyltrimethylaminotrihydroxysilylpropyl ammonium halide and a chloroalkyltrihydroxysilane.

14. The method of claim 12, wherein said silicone based quaternary ammonium salt is a copolymer of octadecylaminodimethyltrihydroxysilylpropyl ammonium chloride and chloropropyltrihydroxysilane.

15. The method of claim 5, wherein said immersing step is performed in a household clothes washer and said drying step is performed in a household clothes dryer.

16. The method of claim 1, wherein said drying step is performed at a temperature of from 50-100°C.

17. The method of claim 1, wherein said drying step is performed at a temperature of from 70-90°C.

18. A composite item selected from the group consisting of composite yarns,
25 composite fabrics and composite articles, having antimicrobial properties and prepared by the method of claim 1.